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Readily distinguished by its very slender habit, irregularly bipinnate ramification and by the thicker capillary divisions of the leaves.

T. mollissima, TAYL.—*T. Tomentella!* *T. lanata*, (HOOK.) NEES—*T. tomentosa* (fide specimen from New Zealand, in Herb. SULLIV. ex-Herb. LEHM.) *T. Tomentella*, *Hepatica Cubensis* Wrightianæ—*T. tomentosa!*

A FEW NOTES ON THE CHANGES OBSERVED IN VEGETATION.—I cannot say how extensive these changes have been, but the observations made extend over several square miles of surface. Of course one has to depend on the testimony of others for some of his facts in such a matter as this. In the town of Windsor, Conn., there are acres of land covered with White Birch, in place of a heavy growth of Pitch Pine that occupied the land when the place was first settled. Some fields are covered with White and Red Oak, with some Chestnut and Black Oak, in place of the pine first found there. Others still are now covered with White Birch and scrub pines, that once were covered with a heavy growth of White and Black Oaks, with some Red Oak and Chestnut. The hazelnut bushes have made their appearance in many places—taken possession would perhaps be better, and White Pines are not unfrequent. The *new* growth referred to came in after the soil had been cultivated for quite a length of time. In fact it requires but a few years for a field to put on a good covering of timber, if left to itself. One field I have in my mind now, that has quite a heavy "second growth,"—pines, oaks, chestnut, &c.—that less than forty years ago was planted to corn. The owner told me he had raised good crops of corn and rye on that same field.

There must have been some source whence such changed vegetation was derived. Can any one tell from what source the seeds of an entirely dissimilar vegetation are derived? Soil brought up from almost any depth and kept from contact with the air, has been known to produce plants unlike any ever before seen in the locality. At least, what seems to be well authenticated instances of the kind, are reported. In some parts of England where "Parks" have been cleared, an entirely new kind of timber springs up. Whence the seeds? One theory is that the seeds of a former vegetation have preserved in the soil, their vitality being such that when shut away from the influence of the air they retain it a long time. The wheat found wrapped up with Egyptian mummies is given as an example. Another theory is the germs are floating in the atmosphere, and when they find a favorable spot they take root; but the seeds of forest trees do not float very much. I will repeat my question, Can any one tell whence these seeds?—N. COLEMAN, *Berlin, Conn.*

RECENT PUBLICATIONS.—*American Journal of Science and Arts*, November.—"Is the Existence of Growth-rings in the Early Exogenous Plants proof of Alternating Seasons?" This is an extract from a paper read before the N. Y. Academy of Sciences, by CHAS. B. WARRING, Ph. D. Various observations are mentioned and the facts established by them are formulated in the following propositions:

1. Some exogens form rings at intervals much less than a year.
2. Others require intervals of several years.
3. Some form no rings.
4. The presence or absence of rings in exogens occurs in all climates.
5. Large and well defined rings are found under conditions in which there is absolutely no appreciable variation of temperature or moisture throughout the year.
6. An exogen naturally forms rings, will continue to form them although the climate become uniform through the year.

The existence, therefore, of these markings in the ancient flora gives no information as to the existence at that time of seasons, and so far as they are concerned we are left free to adopt any conclusion as to the inclination of the earth's axis which may appear to us most reasonable.

Bulletin of the Torrey Botanical Club, September and October.—These are very interesting numbers, being full of valuable observations. Mr. Leggett is getting out another edition (it may be issued before this reaches the readers of the GAZETTE,) of the Botanical Directory. We regret that we were not able to give it wider notice owing to our beginning Vol. III. with the year, instead of publishing November and December numbers. We hope that all of our readers will be prompt with information and with orders for copies. The price will be for a single copy, 40 cents; three copies for \$1.00; a dozen for \$3.00. Address WM. H. LEGGETT, 54 Eighty-first street, New York.

Field and Forest, October.—The Botanical Articles are "A Botanist's Winter Evenings," by W. W. Bailey, and "Notes on the Fungi of Maryland."

Proceedings of the Academy of Natural Sciences of Philadelphia, Part II., April, May, June, July, and August, 1877.—The Botanical Notes are "On the *Eucalyptus globulus*," by Jos. Wharton, "Poisonous Properties of the Leguminosæ," by Dr. J. T. Rothrock, and "The Lacquer Tree," by Thos. Meehan.

Bulletin of the Minnesota Academy of Natural Sciences, 1877.—The most of this number is devoted to the "Mycological Flora of Minnesota," by Dr. A. E. Johnson. In it are listed 559 species all new to the State, two of which are new to science. Two divisions, six families, twenty orders, and seventy-seven genera are represented. Dr. W. H. Leonard gives a list of the Ferns of Minnesota, enumerating 30 species.

Catalogus Plantarum in Nova Cæsarea Repertarum.—If any State deserves a catalogue of its plants, surely New Jersey does, for its rich and varied flora has made it the Mecca of botanists. Dr. Oliver R. Willis has made this a very complete and handsome publication. He gives hints to beginners, and a list of plants recommended for their use, directions for drying and preserving plants, and a botanical directory. He enumerates 1,603 species of Phænogamous plants, 40 species of Equisetaceæ, Filices, and Lycopodiaceæ, and 28 species of Marine Algæ. There are 325 species of Musci, and 100 species of Hepaticæ found in the State, but not named in this catalogue, thus making an aggregate of 2,196 species of plants in the State.

American Naturalist, November.—A note on "Poisonous Grasses," gives the symptoms and antidotes for the poisoning resulting from eating *Stipa Sibirica*. *Melica* and *Lobium* are also spoken of as poisonous. An unusually large specimen of *Ostrya Virginica* is put on record. The girth of the stem at the ground was 9 feet 11 inches, at 4 feet from the ground 7 feet 2 inches; height to first branches 6 feet 4 inches; spread of branches from east to west 47 feet, from north to south 45 feet; height of tree 48 feet 7 inches. If any larger individual has been observed we would like to hear of it.

I much desire herbarium specimens of *Mertensia paniculata* and *M. maritima*. Will exchange for them *M. alpina* and *M. lanceolata* of the Rocky Mountain Alpine region.—H. N. PATTERSON, *Oquawka, Ill.*

Mr. Marcus E. Jones has sets of 500 species of Iowa plants, well preserved and very carefully pressed, which he will deliver to purchasers for \$20.00 per set. Address him at Grinnell, Iowa.

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